



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0088; Project Identifier AD-2022-00041-A; Amendment 39-21941; AD 2022-03-23]

RIN 2120-AA64

Airworthiness Directives; Textron Aviation Inc. (Type certificate previously held by Raytheon Aircraft Company, Hawker Beechcraft Corporation, and Beechcraft Corporation) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Textron Aviation Inc. (type certificate previously held by Raytheon Aircraft Company, Hawker Beechcraft Corporation, and Beechcraft Corporation) (Textron) Model 300, 300LW, B300, and B300C airplanes. This AD was prompted by a report of a timing issue where the yaw servo software can generate a motor position fault when the pilot applies rudder input at the same time the rudder boost system is activated, which disables the rudder boost function and leads to a reduced ability of the flight crew to maintain the safe flight and landing of the airplane or loss of control of the airplane. This AD requires updating the software version of the yaw servo. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Garmin International, Garmin Aviation Support 1200 E. 151st Street, Olathe, KS 66062; phone: (866) 739-5687; website: <https://fly.garmin.com/fly-garmin/support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust St, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0088; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for the Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Phil Petty, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4139; email: philip.petty@faa.gov or Wichita-COS@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

Garmin informed the FAA of a problem during flight testing with the Garmin International, Inc., G1000 integrated avionics system installed on Textron Model 300, 300LW, B300, and B300C airplanes in accordance with Supplemental Type Certificate (STC) No. SA01535WI-D. A timing issue in the yaw servo software can generate a motor position fault when the pilot applies rudder input at the same time the rudder boost system is activated, which disables the rudder boost function.

The rudder boost system applies additional rudder force, using the GSA 9000 yaw servo, following loss of an engine or significant loss of thrust, which limits the rudder force required to maintain directional control of the airplane. Loss of the rudder boost system without warning before the moment rudder boost is needed could result in the inability of the flight crew to maintain the safe flight and landing of the airplane or loss of control of the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

FAA's Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information

The FAA reviewed Garmin STC Service Bulletin No. 21120, Revision A, dated December 10, 2021. This service information specifies updating the software version of the GSA 9000 yaw servo to version 2.14.

The FAA also reviewed Garmin Service Alert No. 21119, Revision A, dated November 18, 2021; and Garmin Service Alert No. 21119, Revision B, dated December 10, 2021. Revision A of this service information advises owners and operators of the unsafe condition previously described, while Revision B identifies the resolution by complying with Garmin STC Service Bulletin No. 21120, Revision A, dated December 10, 2021.

AD Requirements

This AD requires updating the GSA 9000 yaw servo software to a version that is not 2.13 or earlier.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment

prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies foregoing notice and comment prior to adoption of this rule because loss of rudder boost following an engine loss or significant loss of thrust is likely to occur. This could result in the inability of the flight crew to maintain the safe flight and landing of the airplane and loss of control of the airplane. Many of the affected airplanes operate more than 800 flight hours annually. Because of the nature of the unsafe condition and the utilization rate of these airplanes, the corrective actions to mitigate this unsafe condition must be done within 100 flight hours or 3 months, whichever occurs first after the effective date of this AD. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forego notice and comment.

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-0088 and Project Identifier AD-2022-00041-A” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Phil Petty, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 300 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per airplane	Cost on U.S. operators
Update yaw servo software	1 work-hour x \$85 per hour = \$85	Not Applicable	\$85	\$25,500

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-03-23 Textron Aviation Inc. (type certificate previously held by Raytheon Aircraft Company, Hawker Beechcraft Corporation, and Beechcraft Corporation):
Amendment 39-21941; Docket No. FAA-2022-0088; Project Identifier AD-2022-00041-A.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Textron Aviation Inc. (type certificate previously held by Raytheon Aircraft Company, Hawker Beechcraft Corporation, and Beechcraft Corporation) Model 300, 300LW, B300, and B300C airplanes, all serial numbers, certificated in any category, that are equipped with a Garmin International, Inc., G1000 integrated avionics system installed in accordance with Supplemental Type Certificate No. SA01535WI-D with GSA 9000 yaw servo software version 2.13 or earlier.

(d) Subject

Joint Aircraft System Component (JASC) Code 2720, Rudder Control System.

(e) Unsafe Condition

This AD was prompted by a report of a timing issue where the yaw servo software can generate a motor position fault when the pilot applies rudder input at the same time the rudder boost system is activated, which disables the rudder boost. The FAA is issuing this AD to prevent excessive rudder forces following loss of an engine or significant loss of thrust. The unsafe condition, if not addressed, could result in the inability of the flight crew to maintain the safe flight and landing of the airplane and loss of control of the airplane.

(f) Actions and Compliance

(1) Unless already done, within 100 hours time-in-service (TIS) after the effective date of this AD or within 90 days after the effective date of this AD, whichever occurs first, update the GSA 9000 yaw servo software to a version that is not 2.13 or earlier.

(2) As of the effective date of this AD, do not install yaw servo software version 2.13 or earlier on the Garmin G1000 integrated avionics system on any airplane.

(g) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (h) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(h) Related Information

For more information about this AD, contact Phil Petty, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4139; email: philip.petty@faa.gov or Wichita-COS@faa.gov.

(i) Material Incorporated by Reference

None.

Issued on February 1, 2022.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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